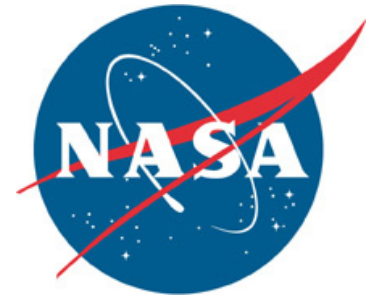


Spaceport News

John F. Kennedy Space Center - America's gateway to the universe

www.nasa.gov/centers/kennedy/news/snews/spnews_toc.html



Shuttles together at pads one last time

By Linda Herridge
Spaceport News

The massive rotating service structure, or RSS, surrounding space shuttle Atlantis at Launch Pad 39A began to retract, revealing the glistening white orbiter, solid rocket boosters and orange external tank in the early afternoon sunlight April 17. Space shuttle Endeavour, framed by the three new 600-foot-tall lightning towers, sat majestically on Pad B after arriving there earlier the same day.

Mike Wisnom, a United Space Alliance system engineer in Ground Systems Support, drove the cab that moved the RSS at Pad A. He and a team of about 40 USA and NASA engineers and technicians arrived at the pad about two hours before to perform a safety walk down and review preliminary procedures with support test managers.

After receiving the go-ahead to proceed, Wisnom drove the RSS very slowly along special rails in the



NASA/Kim Shiflett

With the space shuttle fleet set for retirement in 2010, this is expected to be the final time two shuttles will be on launch pads at the same time. Atlantis, left, sits on Kennedy Space Center's Launch Pad 39A. Endeavour stands by at Pad B in the unlikely event that a rescue mission is necessary during Atlantis' upcoming mission to upgrade NASA's Hubble Space Telescope.

concrete pad surface. The process took about 30 minutes.

"What an awesome picture this would make," Wisnom said, after securing the cab and looking back at both shuttles. "Two shuttles, one on each pad, it doesn't

get any better than this."

NASA Launch Director Mike Leinbach said it's great to have Atlantis on Pad A with Endeavour on Pad B.

"We never thought that would happen again in the program until the trouble with Hubble delayed the

two-launch sequence last fall," Leinbach said. "And now, with the highly visible modifications at Pad B for the Constellation Program, it makes it especially poignant to see them both at the pads.

"Those modifications

More inside

Thirty years ago, Enterprise was the first space shuttle to roll out to a launch pad, Heritage, Page 7.

also speak volumes that the end of the shuttle program is nearing. That's sad, but the beginning of a new program is exciting, so that helps offset the sad feelings."

Since 1985, shuttles have been at both launch pads 19 times -- a rare sight, considering Kennedy's launched 125 shuttle missions to date.

Previously, two shuttles were on launch pads at the same time in September 2008. Atlantis was on Pad A for the STS-125 mission, and Endeavour arrived at Pad B for the Launch on Need mission, or LON. When Atlantis rolled back to the Vehicle Assembly Building because of a delay in the Hubble Servicing Mission, Endeavour rolled around to

See **SHUTTLES**, Page 6

Inside this issue . . .

Earth Day 2009



Page 2

STS-119 crew return



Page 3

2009 Family Day



Pages 4-5

Heritage: Enterprise rolls out



Page 7

Earth Day showcases Kennedy's green efforts

By Linda Herridge
Spaceport News

Kennedy Space Center's Earth Day 2009 activities took place April 22 and 23, but the center's efforts to conserve, recycle and go green happen year-round.

For example, Kennedy recycles about 38 million pounds of trash each year.

A fleet of nearly 900 alternative fuel vehicles are driven around the center. And for the second year in a row, compostable plates and utensils, corn-based cups and recycled paper products were used at the annual KSC All-American Picnic.

Kennedy rolled out its Earth Day event with the theme, "You Can Make a Difference from Earth to Space," with the help of the Environmental Management Branch in Center Operations and United Space Alliance's Environmental Office.

The event featured about 20 local, state and national companies and organizations, with exhibits at the Operations and Checkout Building and Multi-Function Facility.

Other activities included wildlife tours of the center, displays of alternative fuel vehicles and environmentally friendly products, as well as information about natural resources, energy conservation, recycling and environmental stewardship.

Recycling and Green Purchasing Manager Alice Smith helped organize the Earth Day activities.

"The Environmental Office has hosted Earth Day events since 1999," Smith said. "We participate in Earth Day to help raise awareness of the various recycling and conservation programs offered at Kennedy."

That includes the new



NASA/Jim Grossmann

Kennedy Space Center celebrates Earth Day on April 22 and 23, with about 20 vendors showcasing environmentally friendly activities and products, including energy conservation and recycling tips. This display highlights computer monitor recycling.



NASA/Jim Grossmann

Environmental vendors work to show the importance of protecting Earth every day.

recycling bins for glass, aluminum and plastics located in most Kennedy facilities. This effort is in line with an executive order calling for cost-effective waste prevention and recycling programs, among other practices.

These include reductions in greenhouse gas emissions; acquisition of green products and services; sustainable design and high performance buildings; and vehicle fleet management, including the use of alternative fuel vehicles, alternative fuels and the further reduction of petroleum consumption.

Smith said the center recycles cement and concrete, scrap metal, yard

waste, lumber, mixed paper, asphalt, cardboard, copper, used oil, tires and scrap property material from electronics.

According to Bruce Chesson, Kennedy's alternative fuel program manager, the center uses 33 compressed natural gas vehicles, 85 bi-fuel vehicles, 107 diesel vehicles and 676 flex-fuel vehicles.

"Since 2004, Kennedy has used close to one million gallons of alternative fuels," Chesson said. "It's important to raise awareness and encourage workers to use these fuels in the alternative fuel vehicles."

In June 2008, the center held a ribbon-cutting

ceremony for the new Life Support Facility in Kennedy's Industrial Area.

The facility is the first NASA-funded building at Kennedy to be awarded the U.S. Green Building Council's Leadership in Energy and Environmental Design, or LEED, Silver certification. The LEED Green Building Rating System is the national benchmark for the design, construction and operation of high-performance green buildings.

The Life Support Facility has increased filtration and carbon monoxide monitoring for improved indoor air quality, dual-flush toilets for water conservation, as well as high-efficiency lighting and low or no volatile organic compounds in adhesives and paints.

According to Frank Kline, in Kennedy's Facilities Division of Center Operations, several other upcoming projects will be green and meet some level of LEED certification. These include the Operations and Checkout Building remodel, Propellants North and South facilities and the Electrical Maintenance Facility.

See **EARTH**, Page 6

KSC takes pride in protecting planet



Kennedy has a fleet of lithium-powered smart cars.



Car batteries are recycled and reused.



Scrap metal and lumber are recycled.



Solar hot-water panels line the back of the Headquarters Building.



Paper and plastic are recycled and picked up every other week.



Freon recovery follows the Clean Air Act of 1990.

Photos by NASA/Jim Grossmann

STS-119 crew shares mission insights, laurels

Sometimes life in space isn't that much different than on Earth.

When asked what to do when a fellow astronaut is snoring up on the International Space Station, STS-119 Mission Specialist Steve Swanson said, "You stop him."

But there was no stopping the STS-119 mission crew from helping the orbiting laboratory reach full power to support a crew of six and new science experiments.

On April 24, the STS-119 crew returned to Kennedy Space Center's Training Auditorium to share their perspective of the mission.



The STS-119 crew, from left, Mission Specialists Joseph Acaba, Richard Arnold, Steve Swanson and John Phillips, Commander Lee Archambault, and Pilot Tony Antonelli. Japan Aerospace Exploration Agency astronaut Koichi Wakata, not pictured, remains aboard the International Space Station.

Commander Lee Archambault shared the stage with Pilot Tony Antonelli and Mission Specialists Joseph Acaba, Swanson, Richard Arnold and John Phillips. Japan Aerospace Exploration Agency astro-

naut Koichi Wakata remains aboard the station. He replaced Expedition 18 Flight Engineer Sandra Magnus, who returned to Earth with the STS-119 crew. Wakata is serving as a flight engineer for Expeditions 18

and 19, and will return to home aboard space shuttle Endeavour on the STS-127 mission.

After being introduced by Kennedy Deputy Director Janet Petro, the crew presented a 15-minute video of the mission. A question and answer session followed.

One Kennedy worker asked the crew if they could hear the sonic booms during landing. They said no, but Archambault did add: "We saw a video of Tiger Woods stepping up to the tee (box) and he heard the sounds . . . I don't know if he appreciated it very much."

Space shuttle Discovery launched on the STS-119 mission March 15 at 7:43 p.m. EDT and suc-

cessfully landed on March 28 at 3:13 p.m. The 13-day mission featured three spacewalks to help install the S6 truss segment to the starboard, or right, side of the station and deploy its solar arrays.

"Installing the S6 truss was our biggest challenge and greatest accomplishment," Swanson said. "It took everyone to do that and we're very proud of that."

The crew said they're not the only ones who should be proud of their accomplishments -- the Kennedy team should be proud too.

"It's more than six guys going up in space," Archambault said. "It's really a team of thousands."

Kennedy honors winning DuPont Challenge students, teachers

By Linda Herridge
Spaceport News

Mary had a little . . . clone?" The title may sound odd. But to the 2009 DuPont Challenge Science Essay Competition judges, it was a winner.

The essay was written by Georgetown Ninth Grade Campus student Chris Behling, from Georgetown, Texas. He wrote it for a class assignment and his teacher, Mary Baugh, encouraged him to enter the competition.

"I've always thought it would be cool to be a clone, from a science viewpoint," Behling said.

He and five students from schools around the country, along with their teachers, received the DuPont Challenge awards from Kennedy Space Center Director Bob Cabana and Roger Siemionko, vice president of technology with DuPont Safety and Protection, during a recognition event at Kennedy's Visitor Complex's Debus Conference Facility on April 24.

Cabana told the students persistence pays off.

"Set a goal and work toward it,"



NASA/Jack Pfaller

Kennedy Space Center Director Bob Cabana, left, stands with the DuPont educational staff and student winners of the DuPont Challenge 2009 Science Essay Competition on April 24. The DuPont Challenge offers seventh- to 12th-graders an opportunity to write a 700 to 1,000-word essay about a scientific discovery, theory, event or technological application. More than 10,000 students enter the contest each year.

Cabana said. "Pick something you really enjoy doing and you will excel at it."

The DuPont Challenge offers students in grades seven through 12 the opportunity to write an essay about a scientific discovery, theory, event or technological application that has captured their interest.

Senior division winners in grades 10-12 were, Julian Whitman from Thomas Jefferson High School for Science and Technology in Alexandria, Va.; Jeremy Lai from the Texas Academy of Mathematics and Science in Denton, Texas; and Michael Loy from Oregon Episcopal

School in Portland.

Junior division winners in grades seven-nine were, Sivabalan Manivasagam from Rice Middle School in Plano, Texas; Sarah Stites from Thomas Jefferson High School for Science and Technology; and Behling.

Since its inception 23 years ago, more than 200,000 students from all 50 states and Canada have entered the competition.

In each division, the first, second and third place winners receive \$5,000, \$3,000 and \$2,000 U.S. Savings Bonds, respectively. The winners also receive an expenses-paid

trip to Walt Disney World Resort and Kennedy.

The Education Office of Kennedy's External Relations Directorate arranged for the students, along with their parents and teachers, to tour the space center and its working facilities.

According to Education Specialist Helen Kane, this is the third year that the Education Office has participated in honoring the winning students.

"Education and imagination are keys to discovery," Kane said. "The simple fact is that today's students are NASA's future work force."

KSC/CCAAS 2009 Family Day



Kennedy Space Center and Cape Canaveral Air Force Station employees and their guests get an up close look at space shuttle Discovery in Orbiter Processing Facility-3 during Family Day 2009 on April 18. Along the way, attendees also saw a variety of space shuttle features, including thermal protection system components and electrical displays.



Children have fun pretending to drive one of NASA's solid rocket booster retrieval ships, Liberty Star, during Family Day 2009.



Inside Kennedy's Vehicle Assembly Building, attendees marvel at NASA's next-generation flight test space vehicle, Ares I-X.



One of NASA's solid rocket booster retrieval ships, Liberty Star, was available for tours at Kennedy Space Center's Launch Complex 39 Turn Basin. Visitors walked through crew compartments, the bridge and the exterior deck areas where hardware and diving equipment was on display.



Thousands of Kennedy Space Center and Cape Canaveral Air Force Station employees and their guests drive past space shuttles Atlantis and Endeavour at Launch Complex 39 during Family Day 2009. The spectacular view was a popular attraction because this is the last time two shuttles are expected to be on both launch pads.



Family Day 2009 attendees check out exhibits along the Vehicle Assembly Building's transfer aisle, including tools, an external tank and solid rocket booster lifting fixture, spent pyro devices, a wheel and tire display and cranes.



Background photo: Family Day 2009 attendees line up to enter Orbiter Processing Facility-3, where space shuttle Discovery is being prepared for its STS-128 mission targeted to launch Aug. 6.

Photos by NASA/Chris Rhodes

Scenes Around Kennedy Space Center



For NASA

John (Dick) Lyon, vice president of Florida operations and program manager for ASRC Aerospace Corp., receives the 2009 Dr. Kurt H. Debus Award from the National Space Club on April 18 at the Kennedy Space Center Visitor Complex's Debus Conference Facility.



NASA/Jack Pfaller

Fourteen Kennedy Space Center workers receive NASA's Silver Snoopy Award for service to space shuttle astronauts. The award was created by the astronauts to honor people who contribute most to the safety and success of human spaceflight. Kennedy Space Center Director Bob Cabana and several STS-119 mission crew members of handed out the awards to workers at the Kennedy Space Center Visitor Complex on April 24.



NASA/Jim Grossmann

Kennedy Space Center Director Bob Cabana addresses the NASA Alumni League on April 21. Cabana talked about his experience as commander of the space shuttle's first International Space Station mission and the future of the Constellation Program.

From SHUTTLES, Page 1

Pad A for the STS-126 mission. Prior to that, Discovery on the STS-105 mission and Atlantis on the STS-104 mission sat on neighboring launch pads in July 2001.

With the shuttle fleet retiring in 2010, this is expected to be the final time two shuttles will be

on launch pads at the same time. Thousands of Kennedy and Cape Canaveral Air Force Station workers, along with their family and friends, drove past the shuttles during Family Day on April 18.

The STS-125 mission, targeted to launch May 11, culminates the technological progress NASA has made to upgrade and enhance the

Hubble Space Telescope's scientific capabilities.

Atlantis' STS-125 crew members are Commander Scott Altman, Pilot Gregory C. Johnson and Mission Specialists John Grunsfeld, Mike Massimino, Andrew Feustel, Michael Good and Megan McArthur.

During the mission, Grunsfeld, Massimino, Feustel and Good will

perform five spacewalks to add two new instruments to Hubble: the Cosmic Origins Spectrograph and the Wide Field Camera 3.

A flight spare known as the Science Instrument Command and Data Handling system will replace one that failed on Hubble last year.

Also, the first in-orbit repairs will be made to the

Space Telescope Imaging Spectrograph and the Advanced Camera for Surveys. The installation of new gyroscopes, battery modules and thermal blankets will support Hubble through at least 2014.

STS-125 is the 126th space shuttle mission, the 30th flight for Atlantis and the fifth and final shuttle Hubble servicing mission.

From EARTH, Page 2

"Propellants North will be the green showcase facility for Kennedy," Kline said. "We are on target for Platinum certification – the highest level achievable."

The facility will have numerous green aspects, including photovoltaic power generation, solar thermal water heating, daylighting, material reuse, enhanced indoor air quality and rainwater harvesting.

Also in June 2008, NASA and Florida Power and Light signed an agreement that will allow FPL to build a 900-kilowatt photovoltaic solar power facility at Kennedy to support the electrical needs of the center.

The system is expected to generate about 1.7 million kilowatt hours of electricity per year, which



NASA/Jim Grossmann

Kennedy Space Center celebrates Earth Day on April 22 and 23, with about 20 vendors showcasing environmentally friendly activities and products.

translates to a reduction of almost 1,300 tons of carbon dioxide, nearly four tons of sulfur dioxide and two tons of nitrogen oxide. According to the Environmental Protection Agency, that's equivalent to taking

222 cars off the road per year, or saving nearly 138,000 gallons of gasoline.

To help the center make progress toward federal energy efficiency mandates and reducing energy

costs, the Kennedy Energy Working Group was formed in 1991. Members include all center organizations that can take actions to improve energy efficiency in NASA facilities and processes.

Harry Plaza, Kennedy's energy manager, said the purpose of the monthly forum is to develop policies and plans, report progress and accomplishments, increase awareness, advocate and pursue initiatives and technology applications, forecast consumption and cost, and foster consistency across all center elements regarding energy matters.

Gina Parrish, with United Space Alliance's Environmental, Health and Safety Office said, "I want people to know that conservation isn't just on Earth Day, it's every day."

Remembering Our Heritage

Enterprise was first space shuttle to roll out to pad

By Kay Grinter
Reference Librarian

The space shuttle era blossomed in the spring of 1979. The arrival of the first two shuttle orbiters -- Columbia and Enterprise -- and the rollout to the pad of the first complete shuttle stack heralded a fresh new day at NASA's Kennedy Space Center.

Columbia arrived first, on March 24, with Enterprise following close behind on April 10. Although constructed without engines or a functional heat shield, Enterprise was the only shuttle that had flown, completing a series of glide landings in NASA's Approach and Landing Tests.

The Kennedy team boasted of housing the only two shuttles "in captivity."

Columbia was destined to launch the first shuttle crew, optimistically planned for later that year. Enterprise would pave the way to orbit for its sister ship as the facility verification vehicle during fit checks in the Vehicle Assembly Building, or VAB, and at the launch pad.

NASA alumnus Tip Talone was site manager during the tests.

"Having the facility verification vehicle out here really saved the program a lot of time in getting things ready for the first orbiter flow," Talone told the Spaceport News in 1979.

First, an external tank was mated with two inert solid rocket boosters assembled on a mobile launcher platform, or MLP, in a VAB high bay. Enterprise completed the stack.

This first complete stack, called the "pathfinder vehicle," was used to check out the mechanical interfaces between the shuttle and the bay's extendable platforms, which were modified following processing of the last Saturn rocket.

Next, a crawler lifted the MLP and its load off the supporting mounts in the bay -- a first at Kennedy -- and headed for Launch Pad 39A on May 1.

Family members of Kennedy workers were invited onto the center to witness the first shuttle stack roll out to the pad for fit and validation



NASA file/1979

On April 10, 1979, space shuttle Enterprise was ferried to the Kennedy Space Center where it was mated with the external tank and solid rocket boosters. On May 1, it was transported via mobile launcher platform to Launch Pad 39A, where it served as a launch complex fit-check verification tool.

tests. That first cautious trip took eight hours.

Once at the pad, Enterprise supported checks of the sound suppression system, loading of the super-cold liquid oxygen and liquid hydrogen propellants, and verification tests of the orbiter access arm and rotating service structure.

The payload ground-handling mechanism for transfer of an assembled payload from the rotating

service structure into the shuttle's cargo bay also demonstrated its readiness.

From May 1 to July 23, Enterprise completed extensive mechanical fit checks of Kennedy's checkout and launch operations before it was rolled back to the VAB.

"By using Enterprise, we were able to work out a lot of things on a noninterference basis, making the entire effort worthwhile," Talone said.

More online

Space shuttle Enterprise is the centerpiece of the James S. McDonnell Space Hangar at the Smithsonian National Air and Space Museum's Steven F. Udvar-Hazy Center in Chantilly, Va. For more information, visit: http://www.nasm.si.edu/image_detail.cfm?imageID=987

NASA Employees of the Month: May



NASA
Employees of the month for May are, front row, from left: Rodney Berwanger, Constellation Project Office; Jennifer Horner (Employee of the Quarter), External Relations; Laura Thayer, Information Technology and Communications Services; and Julie Pentrack, Engineering Directorate. Back row, from left: Erik Whitehill, Procurement Office; Kevin Decker, Engineering Directorate; Andres Adorno (Employee of First Quarter), External Relations; Michael Hartnett, Launch Vehicle Processing Directorate; Dale Breidenbach (Employee of the Quarter), Human Resource Office; Andrew Swift, Launch Integration Office; and Robert Mitchell, Safety and Mission Assurance Directorate. Not pictured is Gail McLean, Center Operations.

Looking up and ahead

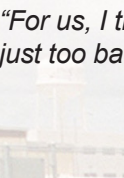
No earlier than May 5	Launch/VAFB: Delta II, STSS-ATRR; 4:24 to 4:52 p.m. EDT
Targeted for May 11	Launch/KSC: Atlantis, STS-125; 2:01 p.m.
Targeted for May 22	Landing/KSC Shuttle Landing Facility: 11:41 a.m.
No earlier than May 20	Launch/CCAFS: Delta IV, GOES-O; TBD
June	Launch/CCAFS: Falcon 9; TBD
No earlier than June 2	Launch/CCAFS: Atlas V, LRO/LCROSS; 5:32 p.m.
Targeted for June 13	Launch/KSC: Endeavour, STS-127; 7:19 a.m.
No earlier than July 8	Launch/CCAFS: Delta IV, WGS SV-3; TBD
Target July 11	Launch/KSC: Ares I-X flight test/Launch Pad 39B; TBD
No earlier than July 29	Launch/CCAFS: Delta II, STSS Demo; TBD
Target Aug. 6	Launch/KSC: Atlantis, STS-128; TBD
No earlier than Aug. 14	Launch/CCAFS: Delta II, GPS IIR-21; TBD
No earlier than Sept. 29	Launch/CCAFS: Delta IV, GPS IIF-1; TBD
No earlier than Oct. 1	Launch/VAFB: Taurus, Glory; TBD
No earlier than Oct. 14	Launch/CCAFS: Atlas V, SDO; TBD
No earlier than Nov. 1	Launch/CCAFS: WISE; TBD
Target Nov. 12	Launch/KSC: Discovery, STS-129; TBD
No earlier than Nov. 12	Launch/CCAFS: Delta IV, GOES-P; TBD
December	Launch/CCAFS: Atlas V, Commercial Payload; TBD
Target Dec. 10	Launch/KSC: Endeavour, STS-130; TBD
Target Feb. 11, 2010	Launch/KSC: Atlantis, STS-131; TBD
Target April 8, 2010	Launch/KSC: Discovery, STS-132; TBD
Target May 31, 2010	Launch/KSC: Endeavour, STS-133; TBD
No earlier than 2011	Launch/CCAFS: Atlas V, Mars Science Laboratory; TBD

WORD ON THE STREET

The STS-125 mission will make the final space shuttle trip to upgrade NASA's Hubble Space Telescope, which was launched from Kennedy in 1990. What do you feel is the telescope's most significant contribution to the world?



"It's been a great asset to the space program because of its discoveries and contributions."
Debra Kirby,
with ASRC Aerospace



"For us, I think it was a wise investment . . . it's just too bad it eventually has to end."
Thomas Clarke,
with NASA



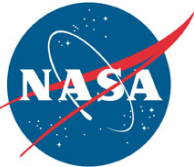
"A public awareness of all the wonders out there in the universe."
Rob Singer,
with Abacus Technologies Corp.



"That one picture with all those galaxies told us the universe was a whole lot bigger than we thought."
Roger Hall,
with ASRC Aerospace



"Hubble is one of the most important scientific assets ever developed with amazing results."
John Zuber,
with NASA



John F. Kennedy Space Center

Spaceport News

Spaceport News is an official publication of the Kennedy Space Center and is published on alternate Fridays by External Relations in the interest of KSC civil service and contractor employees.
Contributions are welcome and should be submitted **three weeks** before publication to the Media Services Branch, IMCS-440. E-mail submissions can be sent to **KSC-Spaceport-News@mail.nasa.gov**

Managing editor Candrea Thomas
Editor Frank Ochoa-Gonzales
Copy editor Rebecca Sprague

Editorial support provided by Abacus Technology Corp. Writers Group.
NASA at KSC is on the Internet at www.nasa.gov/kennedy
USGPO: 733-049/600142